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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,787	08/08/2006	Takamasa Harada	514453-3966	7575

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EXAMINER	
SHALLENBERGER, JULIE A	

ART UNIT	PAPER NUMBER
2885	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/565,787	HARADA ET AL.	
	Examiner	Art Unit	
	JULIE A. SHALLENBERGER	2885	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 July 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/17/08 has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is rejected for being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: the relationship of the prism pattern is not described in relation to the other claimed structural elements of the surface light source. It is unclear whether the prism pattern is on the light guide, the diffusing film, or a separate element altogether.

The claim has been examined as best understood.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 5, 6, 8, 9, 11, 12, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jeon (6,729,737) in view of Harada (JP 2003-202415) and further in view of Funamoto (JP 11-250714).

In regard to claim 1, Jeon teaches a surface light source device with a light guide 140 with a prism pattern 141 (figure 5A), a reflection surface 150 provided on the reverse side of the light guide, and a diffusion sheet 160, but lacks the teaching of a diffusing film provided beside the light output surface of the light guide with a columnar structure of 2 phases with different refractive indices with greater indices extending in the direction of the thickness of the film and the columnar structure being inclined at angles between 5 and 60 degrees and a point light source.

Harada teaches a diffusing film with a columnar structure of 2 phases with different refractive indices which, vary gradually [0022] along the thickness at inclined angles between 5 and 60 degrees [0010] and vary gradually along the axis line of the columnar structure as recited in claims 5 and 8, (refer to figure 3B and [0022]).

Funamoto teaches the use of a point light source as recited in claim 1, that is positioned in the center of the end surface of a light guide as recited in claims 6 and 9.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Harada's diffusing film in place of Jeon's diffusing film in order to improve the brightness so that a wider viewing angle may be obtained and it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a point light source as taught by Funamoto in order to provide a longer lasting light source and to increase the power efficiency of the lighting device..

In regard to the limitation stating " wherein the prism pattern has a directionality, which is liable to cause radial patterns of unevenness in the brightness of the surface light source" and the film provided "in such a way that the direction of the diffusion of the directional light-diffusion film is in the same direction as the direction of the unevenness in brightness", the applicant is advised that these limitations do not add structure to the claims and are merely functional limitations. The applicant is advised that, while the features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Schreiber*, 44 USPQ2d 1429. In addition, it has been held by the courts that apparatus claims cover what a device is, not what a device does. *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 15 USPQ2d 1525 (Fed. Cir. 1990). In this case, the patented apparatus of Jeon in view of Harada and further in view of Funamoto discloses (as detailed above) all the structural limitations required to perform the recited functional language, therefore were considered to anticipate the claimed limitations.

In regard to claims 11 and 12 which recites "the device produces little unevenness in brightness when viewed from an oblique direction". the applicant is advised that these limitations do not add structure to the claims and are merely functional limitations. The applicant is advised that, while the features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Schreiber*, 44 USPQ2d 1429. In addition, it has been held by the courts that apparatus claims cover what a device is, not what a device does. *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 15 USPQ2d 1525 (Fed. Cir. 1990). In this case, the patented apparatus of Jeon in view of Harada and further in view of Funamoto discloses (as detailed above) all the structural limitations required to perform the recited functional language, and therefore were considered to meet the claimed limitations.

In regard to claim 15, Jeon teaches a light diffusing film 160 that is between the light guide 140 and the prism pattern 170 wherein the prism pattern is on the front o the device on top of the light diffusing film (see figure 5A).

Claims 2-4, 14, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jeon, Harada, and Funamoto, as applied to claim 1 above, in view of Shigematsu (JP 2003-075611).

Jeon, Harada, and Funamoto teach the invention described above, but lack the teaching of a light diffusing adhesion agent with microparticles.

Shigematsu teaches a light diffusing adhesion agent with microparticles.

The use of adhesives are well known in the art and providing such a medium between the diffusing film and the light guide is common since the air layer would decrease the overall efficiency, therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the adhesive taught by Shigematsu to bond the diffusing film to the light guide in order to increase efficiency of the surface light source device.

In regard to the particle size and refractive indices, Shigematsu teaches [0025]-[0027] the use of non-sublety particles with a diameter of 1-5 micrometers as recited in claim 2, another example of titanium oxide with a refractive index greater than 1.8 and particle diameter in a range of 10-50 nm as recited in claim 3 and particle diameter in a range of 1-100 micrometers as recited in claim 16, and a further mentions the refractive index of non-subtlety particles may exceed 1.6 as recited in claim 4. These particle sizes and refractive indices are all well known in the art and It would have been obvious to one of ordinary skill in the art at the time the invention was made to use in the adhesive in order to increase the light diffusion and overall efficiency of the surface light source device.

In regard to claim 14, Shigematsu teaches particles between 1 and 5 micrometers [0027] and a refractive index greater than 1.6 [0026].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to been obvious to one of ordinary skill in the art at the time the invention was made to make the particles between 1 and 5 micrometers and a refractive index greater than 1.6, since it has been held that where the general conditions of a

claim are disclosed in the prior art, discovering the optimum or workable ranges involves only ordinary skill in the art. *In re Aller*, 105 USPQ 233.

Claims 7, 10, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jeon, Harada, and Funamoto, as applied to claim 1 above, in view of Karanaru (JP 2003-121656).

Jeon, Harada, and Funamoto teach the invention described above, but lack the teaching of the light emitting unit positioned facing an angled end surface of the light guide and the directional light-diffusing film being directed towards the angle facing the light emitting unit.

Karanaru teaches a light emitting unit positioned facing an angled end surface of the light guide and the directional light-diffusing film being directed towards the angle facing the light emitting unit as recited in claims 7 and 10, (see figures 1, 2, and 7).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to position the light source at an angled edge of a light guide as taught by Karanaru with the light-diffusing film directed towards an angle facing the light emitting unit in order to optimize the diffusion of light throughout the light guide.

In regard to claim 13, which recites "the device produces little unevenness in brightness when viewed from an oblique direction". the applicant is advised that these limitations do not add structure to the claims and are merely functional limitations. The applicant is advised that, while the features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from

the prior art in terms of structure rather than function. *In re Schreiber*, 44 USPQ2d 1429. In addition, it has been held by the courts that apparatus claims cover what a device is, not what a device does. *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 15 USPQ2d 1525 (Fed. Cir. 1990). In this case, the patented apparatus of Jeon, Harada, and Funamoto, in view of Karanaru discloses (as detailed above) all the structural limitations required to perform the recited functional language, and therefore were considered to meet the claimed limitations.

Response to Arguments

Applicant's arguments filed 7/17/08 have been fully considered but they are not persuasive.

In response to applicant's argument that the examiner has combined an excessive number of references, reliance on a large number of references in a rejection does not, without more, weigh against the obviousness of the claimed invention. See *In re Gorman*, 933 F.2d 982, 18 USPQ2d 1885 (Fed. Cir. 1991).

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by

combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Jeon teaches all the elements of independent claim 1 except a two phase diffusion film and a point light source. Harada teaches the two phase diffusion film used for increased transverse brightness and wide viewing angles, and Funamoto teaches a point light source which is well known in the art of illumination for increasing efficiency. The examiner fails to see why the applicant thinks the rejection is not obvious, given the strong motivations for modifying Jeon in view of Harada and Funamoto.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julie A. Shallenberger whose telephone number is (571)272-7131. The examiner can normally be reached on Monday - Friday 830-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jong-Suk (James) Lee can be reached on 571-272-7044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JAS
AU 2885

/Anabel M Ton/

Primary Examiner, Art Unit 2875